REMARKS

Present Status of the Application

Claims 7 and 16 are objected because of informalities. Claim 6 is rejected under 35 U.S.C. 112, first paragraph. The Office Action rejected all presently-pending claims 1-16. Specifically, the Office Action rejected claims 1-5, 7-13, 15-16 under 35 U.S.C. 103(a), as being unpatentable over Fan (US 6,665,736, hereinafter "Fan"), in view of Taguchi (US 6,480,030, hereinafter "Taguchi"). The Office Action also rejected claims 6 and 14 under 35 U.S.C. 103(a) as being unpatentable over Fan and Taguchi, and further in view of Wallace (US 5,635,853, hereinafter "Wallace"). After entry of the foregoing amendments, claims 1-6 and 8-16 remain pending in the present application, and reconsideration of those claims is respectfully requested. More specifically, claims 1, 6, 8, 13 and 16 are directly amended; and claim 7 is canceled without prejudice, waiver, or disclaimer. These amendments are specifically described hereinafter. It is believed that the foregoing amendments add no new matter to the present application.

Discussion of Claim Objections of Claims 7 and 16

According to the OFFICE ACTION, claims 7 and 16 were objected because of informalities. Applicants have rendered the claims objections moot by cancellation of claim 7 and amendment of claim 16.

Discussion of Office Action Rejections

Claim rejections-35 USC 112

The Office Action rejected claim 6 under 35 U.S.C. 112. Applicants amended claim 6 to comply with the enablement requirement.

Rejections on claims 1-5, 7-13 and 15-16 under 35 USC 103(a)

The Office Action rejected claims 1-5, 7-13, 15-16 under 35 U.S.C. 103(a), as being unpatentable over Fan, in view of Taguchi.

The combination of Fan with Taguchi is submitted to be improper because neither Fan nor Taguchi suggest such a combination, and one skilled in the art would have no reason to make such a combination.

It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue.

Applicants submitted the cited combination of references does not disclose, teach, or suggest, either implicitly or explicitly, all elements of the claims at issue.

(1) Claims 1-6

Independent claim 1, as amended, recites the following:

> 1. A motherboard with reduced power consumption, comprising:
> a memory module slot for receiving a memory module therein;

a DDR (Double data rate) termination array, coupled between the memory module slot and a voltage source, comprising a plurality of termination resistors connected to the voltage source and ***a plurality of switches between the plurality of termination resistors and the memory module slot***, wherein the plurality of switches controlling connections between the memory module slot and the termination resistors are controlled according to a control signal; and

a controller chip set, coupled to the memory module slot and the DDR termination array, providing the control signal, wherein when the motherboard enters a power saving mode, or before the memory module is inserted into the memory module slot, the control signal cuts off the connections between the termination resistors and the voltage source; and wherein in connection, ***the plurality of termination resistors are coupled to the memory module in the memory module slot through the plurality of switches***.

Independent claim 1 is allowable for at least the reason that the combination of Fan in view of Taguchi does not disclose, teach, or suggest the features that are highlighted in claim 1 above. More specifically, in Taguchi, the switches 21/22 are coupled between the termination resistors Rt and the voltage source Vtt. However, in the amended claim 1 of the application, the switches are coupled between the termination resistors Rt and the memory module slot. ***The connections of switches in Taguchi and the application are different.*** Besides, in Fan, when the dummy card 501 is inserted into the DIMM slot 507 of FIG. 5B, the termination resistors are coupled to the DIMM slot 507, and there are no memory modules inserted in the DIMM slot 507. But, in the amended claim 1 of the application, when a memory module is inserted in the memory module slot, the termination resistors are coupled to the memory module in the memory module

slot through the switches. So, ***the couplings between the termination resistors, the memory module and the memory module slot in Fan and the application are different.***

Moreover, in Taguchi, the power consumption is reduced by switching from a high-speed transfer mode to a low-speed transfer mode. However, in Fan, there is no discloses, teachings or suggestion that how the memory modules are switched from a high-speed transfer mode to a low-speed transfer mode for reducing power consumption.

Consequently, the combination of Fan in view of Taguchi does not render claim 1 obvious, and the rejection should be withdrawn.

Because independent claim 1 is allowable over the prior art of record, its dependent claims 2-6 are allowable as a matter of law, for at least the reason that these dependent claims contain all features/elements of their respective independent claim 1.

(2) Claims 8-12

Independent claim 8, as amended, recites the following:

> 8. A motherboard with reduced power consumption, comprising:
> a memory module slot for receiving a memory module;
> a plurality of termination resistors, coupled to the memory module slot;
> ***a switch, coupled between the plurality of termination resistors and a voltage source,*** on/off of the switch being controlled by a control signal; and
> a controller chip set, coupled to the memory module slot and the switch to provide the control signal, wherein when the motherboard enters a power saving mode or when the memory module is not inserted in the memory module slot, the control signal commands the switch to cut off the connection between the termination resistors and the voltage

source; and ***wherein in connection, the plurality of termination resistors are coupled to the memory module in the memory module slot.***

Independent claim 8 is allowable for at least the reason that the combination of US 6,665,736 in view of US6,480,030 does not disclose, teach, or suggest the features that are highlighted in claim 8 above. More specifically, in Taguchi, a switch 21 (or 22) is coupled between a termination resistor Rt and voltage source Vtt. However, in the amended claim 8 of the application, the switch is coupled between a plurality of termination resistors Rt and voltage source Vtt. ***The coupling between the termination resistor(s), the switch and the voltage source in Taguchi and the application are different.***

Still again, Fan does not disclose, teach or suggest how the memory modules are switched from a high-speed transfer mode to a low-speed transfer mode for reducing power consumption.

Consequently, the combination of Fan in view of Taguchi does not render claim 8 obvious, and the rejection should be withdrawn.

Because independent claim 8 is allowable over the prior art of record, its dependent claims 9-12 are allowable as a matter of law, for at least the reason that these dependent claims contain all features/elements of their respective independent claim 8.

(3)Claims 13 and 15-16

Independent claim 13 cites similar features and limitation as claims 1 and 8, so the combination of Fan in view of Taguchi does not render claim 13 obvious, and the rejection should be withdrawn.

Because independent claim 13 is allowable over the prior art of record, its dependent claims 15-16 are allowable as a matter of law, for at least the reason that these dependent claims contain all features/elements of their respective independent claim 13.

Claim rejections on claims 6 and 14 under 35 USC 103(a)

As discussion above, the pending claims 6 and 14 are patentable over Fan and Taguchi. Besides, Wallace does not disclose a DDR termination array with a plurality of signal terminals. Therefore, Applicant respectfully submits that claims 6 and 14 patently define over the prior art references, and should be allowed.

Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

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CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated., and that the now pending claims 1-6 and 8-16 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,
J.C. PATENTS

Date: 3/30/2005

Jiawei Huang
Registration No. 43,330

4 Venture, Suite 250
Irvine, CA 92618
Tel.: (949) 660-0761
Fax: (949)-660-0809

Annotated Marked-up drawing

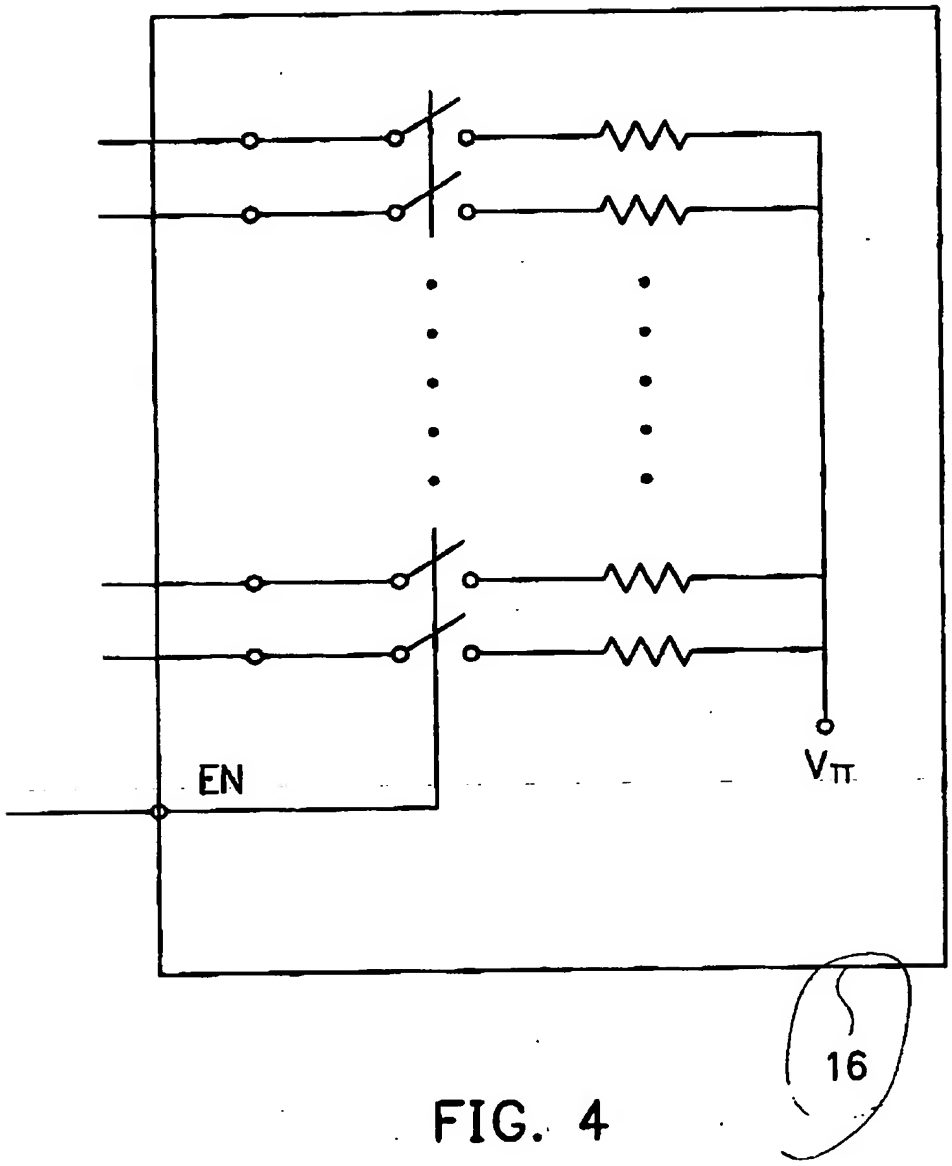

FIG. 4